What is claimed is:

1. A compound comprising a bifunctional fusion glycoprotein or bifunctional glycoprotein conjugate, the compound comprising a carbohydrate complement, and:

a. at least one first portion which possesses enzymatic activity;

b. at least one second portion which binds specifically to an epitope of a tumor-specific antigen;

wherein the carbohydrate complement comprises at least one exposed terminal carbohydrate residue selected from the group consisting of mannose, galactose, N-acetylglucosamine, N-acetyllactose, glucose and fucose.

2. A compound as claimed in claim 1, wherein the exposed carbohydrate residue is produced by enzymatic degradation.

3. A compound as claimed in claim 2, wherein the enzymatic degradation is effected by an enzyme selected from the group consisting of endoglycosidases, exoglycosidases, and neuraminidases, and a combination thereof.

4. A compound as claimed in claim 1, wherein the exposed carbohydrate residue is produced by chemical degradation.

5. A compound as claimed in claim 1 wherein the exposed carbohydrate residue is added to the compound by chemical means.

6. A compound as claimed in claim 1, wherein the first portion consists essentially of an enzyme.

7. A compound as claimed in claim 6, wherein the enzyme is selected from the group consisting of penicillin G amidase, penicillin V amidase, β-lactamase, alkaline phosphatase, carboxypeptidase G2, carboxypeptidase A, cytosine deaminase, nitroreductase, diaphorase, arylsulfatase, glycosidase, β-glucosidase, and β-glucuronidase.

8. A compound as claimed in claim 6 wherein the enzyme is a catalytic antibody.

9. A compound as claimed in claim 1, wherein the tumor cell marker to which the second portions binds comprises a tumor associated antigen selected from the group consisting of CEA, N-CAM, N-cadherin, PEM, GICA, TAG-72, TFβ, GM3, GD3, GM2, GD2, GT3, HMWMAA, pMel17, gp113 (Muc18), p53, p97, MAGE-1, gp105, erbB2, EGF-R, PSA, transferrin-R, P-glycoprotein and cytokeratin.

10. A compound as claimed in claim 1, wherein the second portion consists essentially of an antibody or a fragment thereof.

11. A compound as claimed in claim 11, wherein the antibody is the monoclonal antibody BW 431/26 or a fragment thereof.

12. A compound as claimed in claim 1, wherein the first portion and the second portion are connected by a linker molecule.

13. A compound of claim 12 having the formula huTuMab-L-β-Gluc, wherein huTuMab is a human tumor specific monoclonal antibody or a tumor binding fragment thereof, L is the linker molecule and β-Gluc is a human β-glucuronidase.

14. A compound as claimed in claim 1, comprising a fusion glycoprotein that has been synthesized in CHO cells, the cells having been selected for a high level of expression of the glycoprotein.

15. A compound as claimed in claim 1, wherein the exposed carbohydrate is a galactose or a mannose.

16. A pharmaceutical preparation containing a compound as claimed in claim 1 in a pharmaceutically acceptable vehicle.

17. A pharmaceutical preparation containing a compound as claimed in claim 1, and an agent capable of lowering the pH in a tumor to be treated, in a pharmaceutically acceptable vehicle.

18. A pharmaceutical preparation, containing a compound as claimed in claim 1, and galactose, in a pharmaceutically acceptable vehicle.

19. A method of treating a tumor in a subject, comprising the steps of:

a. administering in a first step a pharmaceutical preparation as claimed in claim 16 to a subject having a tumor;

b. administering in a second step a non-toxic prodrug that will subsequently be cleaved into a cytotoxic drug at the site of the tumor by the first portion, so that the tumor will regress thereby.

20. A process of making a fusion glycoprotein comprising the steps of:

a. preparing a DNA encoding a fusion glycoprotein according to claim 1;

b. inserting the DNA in an expression vector;

c. expressing the DNA in a eukaryote expression system; and,

d. isolating the expressed fusion glycoprotein.

21. A process according to claim 20, wherein the expression system is a transgenic non-human mammalian animal.

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